



Attorney's Docket No.

3940/3928

PATENT

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Box Patent Application Assistant Commissioner for Patents Washington, D.C. 20231



NEW APPLICATION TRANSMITTAL

Transmitted herewith for filing is the patent application of

inventor(s): Shau-Lin F. Chen

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WARNING: Patent must be applied for in the name(s) of all of the actual inventor(s). 37 CFR 1.41(a) and 1.53(b).

For (title):

CATALYTIC CONVERTER SYSTEM FOR INTERNAL COMBUSTION ENGINE POWERED VEHICLES

CERTIFICATION UNDER 37 CFR 1.10

I hereby certify that this New Application Transmittal and the documents referred to as enclosed therein are being deposited with the United States Postal Service on this date $\frac{December\ 24\ ,\ 1997}{EM361216539US}$, in an envelope as "Express Mail Post Office to Addressee" Mailing Label Number $\frac{EM361216539US}{EM361216539US}$, addressed to the: Assistant Commissioner for Patents, Washington, D.C. 20231.

Phyllis Nova (type or print name of person mailing paper)

Signature of person mailing paper

NOTE: Each paper or fee referred to as enclosed herein has the number of the "Express Mail" mailing label placed thereon prior to mailing. 37 CFR 1.10(b).

WARNING: Certificate of mailing (first class) or facsimile transmission procedures of 37 CFR 1.8 cannot be used to obtain a date of mailing or transmission for this correspondence.

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1. Type of Application

This new application is for a(n)

(check one applicable item below)

| ⊠ O | riginal (nonprovisional) |
|-------------------------|---|
| _ D | esign |
| | Plant |
| | Do not use this transmittal for a completion in the U.S. of an International Application under 35 U.S.C. 371(c)(4), unless the International Application is being filed as a divisional, continuation or continuation-in-part application. |
| | Do not use this transmittal for the filing of a provisional application. |
| TRAI | e of the following 3 items apply, then complete and attach ADDED PAGES FOR NEW APPLICATION NSMITTAL WHERE BENEFIT OF A PRIOR U.S. APPLICATION CLAIMED and a NOTIFICATION ARENT APPLICATION OF THE FILING OF THIS CONTINUATION APPLICATION. |
| □ D | ivisional. |
| □ C | ontinuation. |
| □ C | ontinuation-in-part (C-I-P). |
| 2. Benefit | of Prior U.S. Application(s) (35 U.S.C. 119(e), 120, or 121) |
| case, of a p ADDI | new application being transmitted is a divisional, continuation or a continuation-in-part of a parent or where the parent case is an International Application which designated the U.S., or benefit prior provisional application is claimed, then check the following item and complete and attach ED PAGES FOR NEW APPLICATION TRANSMITTAL WHERE BENEFIT OF PRIOR U.S. APPLICATION CLAIMED. |
| | If an application claims the benefit of the filing date of an earlier filed application under 35 U.S.C. 120, 121 or 365(c), the 20-year term of that application will be based upon the filing date of the earliest U.S. application that the application makes reference to under 35 U.S.C. 120, 121 or 365(c). (35 U.S.C. 154(a)(2) does not take into account, for the determination of the patent term, any application on which priority is claimed under 35 U.S.C. 119, 365(a) or 365(b).) For a c-i-p application, applicant should review whether any claim in the patent that will issue is supported by an earlier application and, if not, the applicant should consider canceling the reference to the earlier filed application. The term of a patent is not based on a claim-by-claim approach. See Notice of April 14, 1995, 60 Fed. Reg. 20,195, at 20,205. |
| | When the last day of pendency of a provisional application falls on a Saturday, Sunday, or Federal holiday within the District of Columbia, any nonprovisional application claiming benefit of the provisional application must be filed prior to the Saturday, Sunday, or Federal holiday within the District of Columbia. See 37 C.F.R. § 1.78(a)(3). |
| tic | ne new application being transmitted claims the benefit of prior U.S. application(s) and enclosed are ADDED PAGES FOR NEW APPLICATION TRANSMITAL WHERE BENEFIT OF PRIOR U.S. APPLICATION(S) CLAIMED. |
| | Enclosed That Are Required for Filing Date under 37 CFR 1.53(b)) or 37 CFR 1.153 (Design) Application |
| _ <u>29</u> _ Page | es of specification |
| 4_ Page | es of claims |
| 1_ Page | es of Abstract |
| 2_ Shee | ets of drawing |
| ☐ fo | rmal |
| 🔀 in | formal |





WARNING: DO NOT submit original drawings. A high quality copy of the drawings should be supplied when filing a patent application. The drawings that are submitted to the Office must be on strong, white, smooth, and non-shiny paper and meet the standards according to § 1.84. If corrections to the drawings are necessary, they should be made to the original drawing and a high-quality copy of the corrected original drawing then submitted to the Office. Only one copy is required or desired. Comments on proposed new 37 CFR 1.84. Notice of March 9, 1988 (1990 O.G. 57-62).

NOTE: "Identifying indicia, if provided, should include the application number or the title of the invention, inventor's name, docket number (if any), and the name and telephone number of a person to call if the Office is unable to match the drawings to the proper application. This information should be placed on the back of each sheet of drawing-a-minimum_distance_of_1.5 cm. (5/8 inch) down from the top of the page." 37 C.F.R. 1.84(c)).

| | | | (complete the following, if applicable) |
|----|---------|--------------|--|
| | | The | enclosed drawing(s) are photograph(s), and there is also attached a TITION TO ACCEPT PHOTOGRAPH(S) AS DRAWING(S)." 37 C.F.R. 1.84(b). |
| 4. | Additi | onal | papers enclosed |
| | | Prel | iminary Amendment |
| | | Info | rmation Disclosure Statement (37 CFR 1.98) |
| | | Fon | m PTO-1449 |
| | | Cita | ations |
| | | Dec | laration of Biological Deposit |
| | | per | mission of "Sequence Listing," computer readable copy and/or amendment taining thereto for biotechnology invention containing nucleotide and/or no acid sequence. |
| | | Aut tive | horization of Attorney(s) to Accept and Follow Instructions from Representa- |
| | | Spe | ecial Comments |
| | | Oth | er |
| 5. | Decla | ratio | on or oath |
| | X | Enc | elosed |
| | | Exe | cuted by |
| | | | (check all applicable boxes) |
| | | \mathbf{x} | inventor(s). |
| | | | legal representative of inventor(s). 37 CFR 1.42 or 1.43. |
| | | | joint inventor or person showing a proprietary interest on behalf of inventor who refused to sign or cannot be reached. |
| | | | ☐ This is the petition required by 37 CFR 1.47 and the statement required by 37 CFR 1.47 is also attached. See item 13 below for fee. |
| | | Not | Enclosed. |
| V | VARNING | is to | here the filing is a completion in the U.S. of an International Application, but where a declaration not available, or where the completion of the U.S. application contains subject matter in addition the International Application, the application may be treated as a continuation or continuation-intr. as the case may be, utilizing ADDED PAGE FOR NEW APPLICATION TRANSMITTAL WHERE |

BENEFIT OF PRIOR U.S. APPLICATION CLAIMED.

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| Application is made by a person authorized under 37 CFR 1.41(c) on beha of all the above named inventor(s). |
|--|
| (The declaration or oath, along with the surcharge required by 37 CFR 1.16(e) can be filed subsequently). |
| NOTE: It is important that all the correct inventor(s) are named for filing under 37 CFR 1.41(c) and 1.53(b) |
| Showing that the filing is authorized. (not required unless called into question. 37-CFR-1.41(d)) |
| 6. Inventorship Statement |
| WARNING: If the named inventors are each not the inventors of all the claims an explanation, including the ownership of the various claims at the time the last claimed invention was made, should be submitted. |
| The inventorship for all the claims in this application are: |
| ☐ The same. |
| or |
| Not the same. An explanation, including the ownership of the various claims a the time the last claimed invention was made, |
| is submitted. |
| ☐ will be submitted. |
| 7. Language |
| NOTE: An application including a signed oath or declaration may be filed in a language other than English A verified English translation of the non-English language application and the processing fee of \$130.0 required by 37 CFR 1.17(k) is required to be filed with the application, or within such time as may be set by the Office. 37 CFR 1.52(d). |
| NOTE: A non-English oath or declaration in the form provided or approved by the PTO need not be translated 37 CFR 1.69(b). |
| |
| ☐ Non-English |
| ☐ The attached translation is a verified translation. 37 CFR 1.52(d). |
| 8. Assignment |
| An assignment of the invention toEngelhard Corporation |
| is attached. A separate ☐ "COVER SHEET FOR ASSIGNMENT (DOCU MENT) ACCOMPANYING NEW PATENT APPLICATION" or ☐ FORM PTG 1595 is also attached. |
| |
| NOTE: "If an assignment is submitted with a new application, send two separate letters-one for the application and one for the assignment." Notice of May 4, 1990 (1114 O.G. 77-78). |
| WARNING: A newly executed "CERTIFICATE UNDER 37 CFR 3.73(b)" must be filed when a continuation-in-pail application is filed by an assignee. Notice of April 30, 1993, 1150 O.G. 62-64. |

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9. Certified Copy

Certified copy(ies) of application(s)

| COU | ntry | appin. no. | filed |
|--------|---|--|---|
| | • | | |
| cou | ntry | appln. no. | filed |
| | | | |
| cou | ntry | appln. no. | filed |
| from w | hich priority is claimed | | |
| |] is (are) attached. | | |
| | will follow. | | |
| NOTE: | The foreign application forming declaration. 37 CFR 1.55(a) and | the basis for the claim for priority mo 1.63. | ust be referred to in the oath or |
| NOTE: | U.S. application or International A 120 is itself entitled to priority fro | ity for which the application being fil Application from which this application om a prior foreign application, then con IN TRANSMITTAL WHERE BENEFIT C | n claims benefit under 35 U.S.C. complete item 18 on the ADDED |

10. Fee Calculation (37 CFR 1.16)

A. X Regular application

| | CLAIMS AS | FILED | | |
|--|-----------|-------|----------|---|
| Number filed | Number Ex | tra | Rate | Basic Fee 37 CFR 1.16(a) \$790.00 |
| Total Claims (37 CFR 1.16(c)) 39 - 20 | = 19 | × | \$ 22.00 | 418.00 |
| Independent Claims (37 CFR 1.16(b)) 1- 3 | = 0 | × | \$ 82.00 | - 0 |
| Multiple dependent claim(s), if any (37 CFR 1.16(d)) | | + | \$270.00 | 270.00 |

| | Ameno | lment | cancelling | extra | claims | enclose | d. |
|--|-------|-------|------------|-------|--------|---------|----|
|--|-------|-------|------------|-------|--------|---------|----|

☐ Amendment deleting multiple-dependencies enclosed.

☐ Fee for extra claims is not being paid at this time.

NOTE: If the fees for extra claims are not paid on filing they must be paid or the claims cancelled by amendment, prior to the expiration of the time period set for response by the Patent and Trademark Office in any notice of fee deficiency. 37 CFR 1.16(d).

Filing Fee Calculation

\$ 1,478.00

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| В. | | Design application (\$310.00—37 CFR | | |
|------|-------|---|--|--|
| | | | Filing Fee Calculation | \$ |
| C. | | Plant application (\$510.00—37 CFR | 1.16(g)) | |
| | | | Filing fee calculation | \$ |
| 11. | Sma | II Entity Statement | t(s) | |
| | . 🗆 | Verified Statement 1.27 is (are) attack | (s) that this is a filing by a small entity ned. | under 37 CFR 1.9 and |
| WA | RNING | including applications or patent in which th under 35 U.S.C. 119 filed in the prior app statement in the prio | ity in one application or patent does not affect a s or patents which are directly or indirectly de- e status has been established. A nonprovisional (e), 120, 121 or 365(c) of a prior application ma dication if the nonprovisional application inclu- er application or includes a copy of the verifier as a small entity is still proper and desired." 3 | pendent upon the application all application claiming benefit by rely on a verified statement des a reference to a verified d statement filed in the prior |
| | | (co | mplete the following, if applicable) | |
| | | Status as a small | entity was claimed in prior application | า |
| | | | , filed on | , from which benefit |
| | | is being claimed f | or this application under: | |
| | | 35 U.S.C. 🔲 11 | | |
| | | □ 12 □ 12 | 20, 21, · | |
| | | | 55(c), | |
| | | . | as a small entity is still proper and | desired |
| | | | • | |
| -::: | Г | • • | e verified statement in the prior appl | e e |
| _ | | · | of A, B or C above) | D |
| NOI | W | | paid will be refunded if a venfied statement a te of timely payment of a full fee. The two-mo 28(a). | |
| 2. | Requ | est for Internation | nal-Type Search (37 CFR 1.104(d)) | |
| | | | (complete, if applicable) | |
| | | | international-type search report for this mination on the merits takes place. | s application at the time |



1.22(b).



13. Fee Payment Being Made at This Time

| | | Not | Enclosed | |
|-----|-----|--------------------------------|--|---|
| | | | No filing fee is to be paid at this time. (This and the surcharge required by 37 CFR 1.16(e) can quently.) | be paid subse- |
| | X | Enc | losed | |
| | | X | Basic filing fee | \$ 1,478.00 |
| | | | Recording assignment (\$40.00; 37 CFR 1.21(h)) (See attached "COVER SHEET FOR ASSIGNMENT ACCOMPANYING NEW APPLICATION".) | \$ |
| | | | Petition fee for filing by other than all the inventors or person on behalf of the inventor where inventor refused to sign or cannot be reached. (\$130.00; 37 CFR 1.47 and 1.17(h)) | \$ |
| | | | For processing an application with a specification in a non-English language. (\$130.00; 37 CFR 1.52(d) and 1.17(k)) | \$ |
| | | | Processing and retention fee (\$130.00; 37 CFR 1.53(d) and 1.21(l)) | \$ |
| | | | Fee for international-type search report (\$40.00; 37 CFR 1.21(e)) | \$ |
| NO | TE: | to com 1.53 an filing fe | 1.21(I) establishes a fee for processing and retaining any application that is plete the application pursuant to 37 CFR 1.53(d) and this, as well as the d 1.78, indicate that in order to obtain the benefit of a prior U.S. applicate must be paid, or the processing and retention fee of § 1.21(I) must be paid under § 53(d). | e changes to 37 CFR ation, either the basic |
| | | | Total fees enclosed \$ | ,478.00 |
| 14. | Me | thod | of Payment of Fees | |
| | |) Che | ck in the amount of \$ | |
| | X | | trge Account No. $05-1070$ in the amount of $\frac{1}{2}$ uplicate of this transmittal is attached. | 478.00 |

NOTE: Fees should be itemized in such a manner that it is clear for which purpose the fees are paid. 37 CFR





15. Authorization to Charge Additional Fees

WARNING: If no fees are to be paid on filing, the following items should not be completed.

WARNING: Accurately count claims, especially multiple dependent claims, to avoid unexpected high charges, if extra claim charges are authorized.

- The Commissioner is hereby authorized to charge the following additional fees by this paper and during the entire pendency of this application to Account No. 05-1070
 - 37 CFR 1.16(a), (f) or (g) (filing fees)
 - 37 CFR 1.16(b), (c) and (d) (presentation of extra claims)
- NOTE: Because additional fees for excess or multiple dependent claims not paid on filing or on later presentation must only be paid or these claims cancelled by amendment prior to the expiration of the time period set for response by the PTO in any notice of fee deficiency (37 CFR 1.16(d)), it might be best not to authorize the PTO to charge additional claim fees, except possibly when dealing with amendments after final action.
 - ☐ 37 CFR 1.16(e) (surcharge for filing the basic filing fee and/or declaration on a date later than the filing date of the application)
 - ☐ 37 CFR 1.17 (application processing fees)
- WARNING: While 37 CFR 1.17(a), (b), (c) and (d) deal with extensions of time under § 1.136(a), this authorization should be made only with the knowledge that: "Submission of the appropriate extension fee under 37 C.F.R. 1.136(a) is to no avail unless a request or petition for extension is filed." (Emphasis added). Notice of November 5, 1985 (1060 O.G. 27).
 - 37 CFR 1.18 (issue fee at or before mailing of Notice of Allowance, pursuant to 37 CFR 1.311(b))
- NOTE: Where an authorization to charge the issue fee to a deposit account has been filed before the mailing of a Notice of Allowance, the issue fee will be automatically charged to the deposit account at the time of mailing the notice of allowance. 37 CFR 1.311(b).
- NOTE: 37 CFR 1.28(b) requires "Notification of any change in loss of entitlement to small entity status must be filed in the application . . . prior to paying, or at the time of paying, . . . issue fee." From the wording of 37 CFR 1.28(b): (a) notification of change of status must be made even if the fee is paid as "other than a small entity" and (b) no notification is required if the change is to another small entity.

16. Instructions as to Overpayment

| X | Credit Account No | 03-1070 |
|-----|-------------------|-----------------------|
| | Refund | \mathcal{L}_{0} |
| | | Juneard a Vleam |
| | | SIGNATURE OF ATTORNEY |
| NI. | 20 6/0 | \mathcal{O} |

Reg. No. 28,649

(type or print name of attorney)

Richard A. Negin

Tel. No. (732) 205-6241

Engelhard Corporation

P.O. Address 101 Wood Avenue, P.O. Box 770 Iselin, New Jersey 08830-0770

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| Incorporation by reference | 3 OI | radded | pages |
|----------------------------|------|--------|-------|
|----------------------------|------|--------|-------|

(check the following item if the application in this transmittal claims the benefit of prior U.S. application(s) (including an international application entering the U.S. stage as a continuation, divisional or C-I-P application) and complete and attach the ADDED PAGES FOR NEW APPLICATION TRANS-MITTAL WHERE BENEFIT OF PRIOR U.S. APPLICATION(S) CLAIMED)

| | Plus Added Pages for New Application Transmittal Where Benefit of Prior U.S. Application(s) Claimed |
|------|---|
| | Number of pages added |
| | Plus Added Pages for Papers Referred to in Item 4 Above |
| | Number of pages added |
| | Plus "Assignment Cover Letter Accompanying New Application" |
| | Number of pages added |
| tate | ment Where No Further Pages Added |

☐ S

(if no further pages form a part of this Transmittal, then end this Transmittal with this page and check the following item.)

This transmittal ends with this page.